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25 JUN 1982

MEMORANDUM FOR: Associate Deputy Director for Science and Technology

FROM:

 Director, Foreign Broadcast Information Service

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SUBJECT: Japanese S&T Press Exploitation

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1. Present FBIS Resources: The emergence of Japanese strength in science and technology has been reflected in a shift in coverage priorities within the unit of FBIS staff linguists who are targetted on the Japanese press. Until several years ago, political concerns were uppermost in the assignment of DCID priorities on Japan, but since the shift of interest to S&T developments FBIS has been devoting two of the present complement to that area. additional linguist positions to be devoted exclusively to S&T coverage are included in the FY-1983 budget. This will lead to establishment of a new Japanese S&T translation program capable of further expansion in coming years as warranted.

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2. Present FBIS Coverage: A recent edition of the DIRECTORY OF JAPANESE SCIENTIFIC PERIODICALS lists some 8,900 titles. Before 1980 only 35 of these were being processed in FBIS; now some 250 titles are being processed. Some 350 pages of material from these publications appear in JPRS reports each month (compared to 75-100 pages per month before 1980). The areas being covered included: (1) Science Policy and Technology Strategy; (2) Civil Aviation; (3) Automotive Technology; (4) Marine Technology; (5) Nuclear Power Technology; (6) Alternative Energy Conversion Technology; (7) Coal Combustion and Coal Conversion Technology; (8) Telecommunications; (9) Computers; (10) Microelectronics; (11) Bio-technical Research and Commercial Developments; (12) Advanced-technology Transfer to the USSR; (13) Cybernetics and Automation Technology; and (14) Space Technology.

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3. Projected FBIS Coverage: The addition of Japanese desk officer slots in FY-83 will offer the opportunity to expand open-source coverage to 350-400 Japanese-language publications. This will be supplemented by an increasing flow of English-language publications from Japan. Expanded coverage is expected in the following areas: (1) a desk officer to handle

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computers, cybernetics, automation technology, and military technology; (2) a second S&T officer to oversee developments in microelectronics, telecommunications, and marine technology; (3) a third officer to be in charge of biotechnology, nuclear power, alternative energy conversion systems, coal combustion and coal conversion, chemistry, and biohazard technology; (4) a fourth officer to cover space and civil aviation, automotive technology, and metallurgy. Beyond specific areas of technology, FBIS expects to respond to general requirements pertaining to Japanese government and corporate plans, programs, policies, and intentions. It will also focus on major R&D projections with implications for further technological and industrial applications.

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4. Recruiting Problem: The key to expanding coverage is finding competent Japanese linguists with S&T background to fill staff positions and to do contract translation. Constant recruiting efforts have had only limited success, very probably because the requisite package of talents can command higher salaries elsewhere. If FBIS added half a dozen S&T IO's to its staff tomorrow, production would still be limited by the dearth of good Japanese-to-English translators available in this country for contract translation.

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6. Other USG S&T Translation Efforts: Other government organizations involved in translation include the Foreign Science and Technology Center (FSTC), which produces about 750,000 words of translation from documents devoted primarily to artillery, ordnance, explosives, and electronics. The National Technical Information Service (NTIS) of the Department of Commerce has been unsuccessful in mounting a Japanese-to-English technical

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abstracting program in Tokyo. NTIS has found a source in Beijing to translate some Japanese technical materials. In FY-82 the National Aeronautics and Space Administration (NASA) contracted out some 500 Japanese abstracts on aerospace to a firm in New York. Finally, the National Institutes of Health (NIH) does some abstracting work from Japanese medical journals.

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7. Private Sector: Information on what is being done in the private sector is sketchy. No doubt many U.S. firms are following Japanese S&T developments; however, since the same constraints on language and S&T background apply, presumably much of their information is derived from English-language sources from Japan.

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8. Machine Translation Potential: FBIS has kept abreast of developments in Machine Translation (MT). There are currently no known systems capable of handling Japanese-English translation. Two firms, Weidner Communications and Peter Toma's LATSEC, are developing a capability to handle Japanese. Weidner expects to have its system available next year. The system would not be readily amenable to the FBIS procedures of staff scanning and selection and contractor translation leading to a product of 100% accuracy. The Weidner system is geared to customer acceptance of 80% accuracy if it is to be cost-effective. Hence it is acceptable for the translation of technical manuals--as is currently done by the DDO with Russian and Spanish manuals--when an in-house staff of inputters and translator/post-editors can work together on a common computer, and where the consumer does not require a finished, published translation. The system would not, however, meet FBIS publication criteria without extensive post-editing that would negate the time-saving aspect of MT. Development of true MT capability, which would not require inputting and post-editing, is still inhibited by lack of a major breakthrough in the development of the artificial intelligence required to follow syntactical intricacies.

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9. FBIS is taking the following actions:

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b. Recruitment of contract translators in the United States is being intensified.

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c. FBIS will continue to explore the possibility of using machine translations to handle S&T materials. [REDACTED]

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